

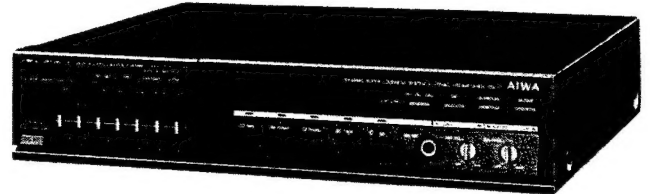
AIWA® SERVICE MANUAL

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STEREO PREAMPLIFIER

MODEL NO.

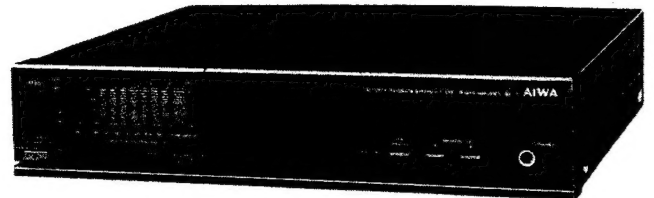
GX-770



STEREO POWER AMPLIFIER

MODEL NO.

BX-770



TYPE. HB, UB, EB, KB, ZB

Follow the instructions carefully, which will allow the user to optimise the products' performance and give many years of service.

- No scratch and melting shall be made to covered lead-wires of an a.c. primary circuit including mains leads.
- No illegibility shall be given to the specification plate, the caution labels, the fuse labels and others.
- When, on pattern sides of circuit boards, additional repair-parts have been made up, the parts shall be firmly glued to circuit boards or other components, unless the parts can be attached firmly.
- The following matters shall be maintained as they are, when repairing.
 - Soldering of lead-wire ends
 - * Care should be taken of the space distance in an a.c. primary circuit as well as soldering.
 - Wiring and holding of lead-wires with wire-clips and binders
 - Materials of lead-wires
 - * e.g.; For UL models, lead-wires to be used shall be approved or accepted by the UL.
 - Location of all kinds of insulators
 - Setting of voltage selector switch
 - * Set the Voltage Selector Switch to 240V, 220V, or 120V, According to your Local Voltage.
- After repaired, the insulation resistance or leakage current shall be measured with $500 \pm 5V$ D.C and shall be not less than $1M\Omega$.
Measuring Point
Connect to Chassis or Outside \ominus of Pin Jack
Rating : More than $1M\Omega/500V$ DC
A schematic diagram showing a DC voltage source (500V) connected to a pin jack. The other terminal of the source is connected to the chassis. The diagram labels the 'Pin Jack (⊖)' and 'Chassis (⊖)'. A note indicates the rating should be more than 1MΩ/500V DC.
 - General instructions for mechanism repair
 - E-rings and poly slider washers shall be replaced with new ones, if once those have been removed. — No re-utilization due to unreliability.
 - Regular spare-parts shall always be used for repair, because using irregular parts and tampering with the products shall cause deterioration, malfunction and damage.

SPECIFICATIONS

GX-770

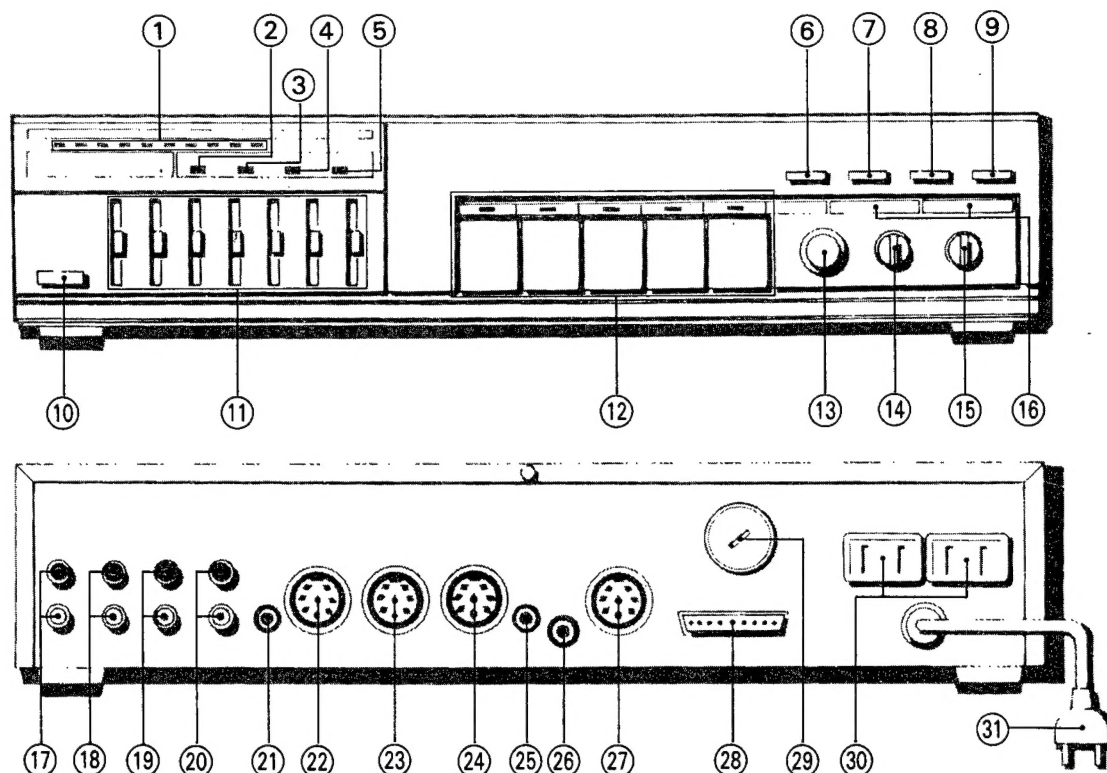
Total harmonic distortion:	TUNER, AUX, TAPE PLAY, CD 0.008% (1 kHz) PHONO (MM) 0.01% (1 kHz, REC OUT)	Output jacks (Level/output impedance):	TAPE: 150 mV/47k ohms (REC OUT) OUTPUT: 1 V/47k ohms REC OUT jack 340 mV/47k ohms ±0.5 dB (20 Hz ~ 20 kHz)
Frequency response:	20 Hz to 50 kHz (+0.5/-3 dB)	RIAA deviation:	
S/N ratio:	IHF A curve short circuited GX-770E, H, K, U, PHONO (MM) 84 dB TUNER, AUX, TAPE 90 dB GX-770Z PHONO (MM) 76 dB TUNER, AUX, TAPE 90 dB	Power requirements:	GX-770U, AC 120V, 60 Hz GX-770K AC 240V, 50/60 Hz GX-770H AC 120V/220V/240V switchable, 50/60 Hz GX-770E, Z AC 220V, 50/60 Hz
Input jacks (Sensitivity/input impedance):	PHONO (MM) 4 mV/47k ohms TUNER 170 mV/47k ohms CD 230 mV/27k ohms TAPE 170 mV/47k ohms AUX 170 mV/47k ohms MIC 1 mV/10k ohms	Power consumption:	GX-770E, K, Z, 10 W GX-770U 10 W GX-770H 10 W
		Dimensions:	330 (W) x 71 (H) x 307 (D) mm
		Weight:	2.3 kg

BX-770

Effective output power:	BX-770H 100W+100W (10%, 8 ohms) BX-770 E, K, Z, 75W+75W (0.02%, 1 kHz, 8 ohms) < FTC Rule U mode only > 75 Watts per channel, Min. RMS at 8 ohms, from 20 Hz—20 kHz, with no more than 0.02% Total Harmonic Distortion.	Damping Factor:	More than 30 (8 ohms, 1 kHz)
Total harmonic distortion:	0.01% (50W+50W, 20 Hz—20 kHz, 8 ohms)	Power requirements:	BX-770U AC 120V, 60 Hz BX-770K AC 240V 50/60 Hz BX-770H AC 120V/220V/240V switchable, 50/60 Hz BX-770E, Z AC 220V, 50/60 Hz
Frequency response:	10 Hz to 50 kHz (-1 dB)	Power consumption:	BX-770E, K, Z 350 W BX-770U 100 W BX-770H 120W
S/N ratio:	IHF 110 dB, A curve short circuited	Dimensions:	330 (W) x 71 (H) x 313 (D) mm
Input jacks (Sensitivity/ input impedance):	BX-770 1V/47k ohms	Weight:	4.6 kg
Output jacks (Level/ output impedance):	Headphones 1 mW/1 W (8Ω) Speakers (A or B) 8 to 16 ohms Speakers (A + B) 16 ohms		

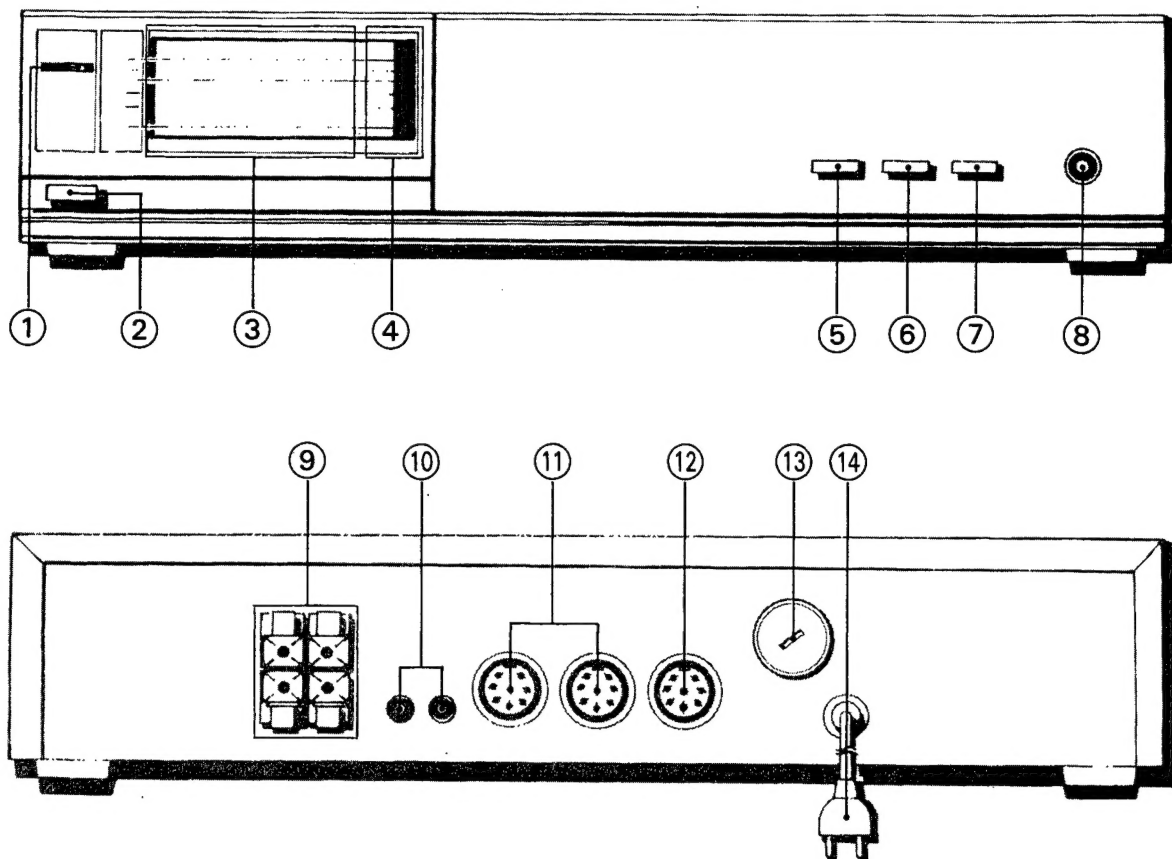
- Design and specifications are subject to change without notice.

NAMES OF PARTS AND THEIR FUNCTION (GX-770)



1. **VOLUME INDICATOR**
Displays the volume.
2. **REC OUT indicator**
This indicator lights when the REC OUT button is "ON".
3. **DSL indicator**
This indicator lights when the DSL button is "ON".
4. **SURROUND indicator**
This indicator lights when the SURROUND button is "ON".
5. **MUTING Indicator**
This indicator lights when the MUTING button is "ON".
6. **REC OUT switch**
Turn this switch ON (the indicator will light) when you want the output signal to REC OUT to be adjustable with the equalizer. The switch should be OFF if you want the output to REC OUT to have a flat response; with no influence from the equalizer controls.
7. **DSL ON/OFF button**
For turning ON/OFF the DSL circuit.
8. **SURROUND button**
Switch this button "ON" when listening to the surround system with four speakers.
9. **MUTING button**
Set the MUTING button to ON for decreasing the volume by 1/10th of the normal volume setting. This is convenient when answering the telephone, etc. Usually keep the button set in the OFF position.
10. **POWER button**
For switching the power ON/OFF (STANDBY).
11. **GRAPHIC EQUALIZER controls**
Adjust the tone for the desired response.
12. **Function buttons and function indicator**
Press the appropriate button to select the desired music source.
The indicator corresponding to the depressed button turns on.
13. **MIX MIC jack**
Plug the microphones into this jack for sound mixing or for recording music while you sing along.
14. **MIC VOL control knob**
For volume control from the mixing microphone.
15. **BALANCE control knob**
For balancing right and left speaker sound.
16. **VOLUME button**
17. **PHONO jack**
These jacks are connected to connect to the output plugs of the turntable system.
18. **Compact disk jacks (CD)**
These jacks are connected to a compact disk player.
19. **Auxiliary input jacks (AUX)**
These jacks are connected to the output cords of external components.
20. **REC OUT jack (REC OUT)**
These output jacks permit connection, when recording, to an external component such as a VCR.
21. **PHONO SYNC jack**
This jack connects to the turntable synchronization cable.
22. **Tape REC/PLAY jack**
This jack is connected to the REC/PLAY jack of the deck.
23. **Tape CONTROL jack**
This jack is connected to the CONTROL jack of the deck.
24. **TUNER jack**
This jack is connected to the OUTPUT jack of the tuner.
25. **CD synchro-recording jack (CD SYNC)**
Jack for connection to the synchro-recording jack (DECK SYNC) on the AIWA compact disc player.
26. **VIDEO synchro-recording jack (VIDEO SYNC)**
Jack for connection to the SYNCHRO FUNCTION jack on the AIWA AV-70M video cassette recorder.
27. **Output jack (OUTPUT)**
This jack is connected to the INPUT jack of the power amplifier.
28. **Remote control jack (REMOTE)**
Jack for wireless remote control of the AIWA 7000 series system.
29. **AC VOLTAGE selector switch (H model only)**
30. **AC OUTLETS**
Supply power for the BX-770 power amplifier and the DX-770 compact disc player.
31. **AC cord**
Supplies power to the unit.

NAMES OF PARTS AND THEIR FUNCTION (BX-770)



1. AFBS Indicator

When the AFBS button is "ON" this indicator lights.

2. POWER button

For switching the power ON/OFF (STANDBY).

3. Spectrum Analyzer display

Displays the input signal level by dividing it into 7 frequency bandwidths.

* The input signal amplitude is displayed independently of the volume, however the display changes when the Graphic Equalizer is used.

* This display lights only when this unit is used with the GX-770 preamplifier. In other combinations, the display does not light.

4. POWER OUTPUT Indicator (POWER INDICATOR)

This display amplifier output levels.

5. AFBS button

When this button is ON, the base notes of the A speakers (AIWA SX-E77) are emphasized.

6. SPEAKERS A switch

When pressed in, turns on the speakers connected to the A speaker terminals.

7. SPEAKERS B switch

When pressed in, turns on the speakers connected to the B speaker terminals.

8. PHONES jack

Jack for the connection of headphones. When listening with headphones and without sound from the speakers, switch both SPEAKER buttons A and B OFF.

9. SPEAKERS B terminals

Connection terminals for right and left speakers of system B.

10. Speaker jacks for surround system use (SPEAKERS)

When listening to the surround system, connect the rear speakers to this jack.

11. SPEAKERS A terminals

Connection jacks for right and left speakers of system A.

12. INPUT jacks

Cords from these terminals should be connected to the OUTPUT jacks on the preamplifier unit.

13. AC VOLTAGE selector switch (H model only)

14. AC cord

Supplies power to the unit.

ELECTRICAL MAIN PARTS LIST (GX-770)

- +++ mark denotes a component of assembled part which part code is represented by a previously stated component.
- *-mark means less required items and availabilities may be limited.

CAPACITORS
No mark, U, UF: μ F
P, PF : pF

COILS
MMH: mH
UH : μ H

FUSE
MMA: mA

ELECTRICAL M.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.
--- IC ---			D22	87-020-110	DIODE 1SS177	C1	★ 87-015-684	CAP,ELECT 47-16	△C97	★ 87-019-110	SPARK KILLER 0.01	--- IC ---	
			D23	87-020-110	DIODE 1SS177	C2	★ 87-015-684	CAP,ELECT 47-16	△F1	★ 87-035-139	FUSE T2.5A (E,Z ONLY)		
	87-027-350	IC,1R2406G	D24	87-020-110	DIODE 1SS177	C3	★ 87-015-698	CAP,ELECT 4.7-50	△J17	★ 87-049-017	AC OUTLET (AC OUTLETS)(H ONLY)		87-020
	87-020-547	IC,LB1292	D25	87-020-110	DIODE 1SS177	C4	★ 87-015-698	CAP,ELECT 4.7-50	△J17	★ 87-049-070	AC OUTLET (AC OUTLETS)(U ONLY)		87-020
	87-020-604	IC,M4051BP											87-020
	87-027-895	IC,M5218L	D31	87-020-110	DIODE 1SS177	C5	★ 87-018-040	CAP,CERA-SOL S 470P	△J17	★ 87-049-514	AC OUTLET (AC OUTLETS)(E,Z ONLY)		87-020
			D32	87-020-110	DIODE 1SS177	C6	★ 87-018-040	CAP,CERA-SOL S 470P	△J17	★ 87-049-416	AC OUTLET (AC OUTLETS)(K ONLY)		
	87-027-925	IC,M5220	D33	87-020-110	DIODE 1SS177	C7	★ 87-018-037	CAP,CERA-SOL S 270P	△J18	★ 87-049-017	AC OUTLET (AC OUTLETS)(H ONLY)		87-020
	87-020-546	IC,M5229P	D34	87-020-110	DIODE 1SS177	C8	★ 87-018-037	CAP,CERA-SOL S 270P	△J18	★ 87-049-070	AC OUTLET (AC OUTLETS)(U ONLY)		87-020
	87-020-619	IC,M5238L											87-020
	87-020-379	IC,MN6632	D35	87-020-110	DIODE 1SS177	C11	★ 87-018-042	CAP,CERA-SOL S 680P	△J18	★ 87-049-514	AC OUTLET (AC OUTLETS)(E,Z ONLY)		87-020
			D36	87-020-110	DIODE 1SS177	C12	★ 87-018-042	CAP,CERA-SOL S 680P	△J18	★ 87-049-416	AC OUTLET (AC OUTLETS)(K ONLY)		87-020
	87-027-986	IC,NJM4560S	D37	87-020-110	DIODE 1SS177	C15	★ 87-018-045	CAP,CERA-SOL 2200P	--- VOL.SELECTOR CIRCUIT BOARD SECTION (H ONLY) ---				
	87-027-989	IC,TC4027BP	D38	87-020-110	DIODE 1SS177	C16	★ 87-018-045	CAP,CERA-SOL 2200P	PCB-D * VOL.SELECTOR CIRCUIT BOARD				
	87-027-656	IC,TC4066BP							△S1	★ 87-031-551	ROTARY SW(VOLTAGE SELECTOR)(H ONLY)		87-027
	87-027-978	IC,TC9152P	D40	87-020-110	DIODE 1SS177	C19	★ 87-018-046	CAP,CERA-SOL S 0.0047	--- MISCELLANEOUS ---				
			D41	87-020-364	DIODE,ZENER HZ-2B3	C20	★ 87-018-046	CAP,CERA-SOL S 0.0047	--- TRANSISTOR ---				
	87-027-554	IC,UPD4066BC	D42	87-020-110	DIODE 1SS177	C21	★ 87-015-692	CAP,ELECT 0.22-50V					
			D43	87-020-110	DIODE 1SS177	C22	★ 87-015-692	CAP,ELECT 0.22-50V					
--- TRANSISTOR ---			D44	87-020-110	DIODE 1SS177	C25	★ 87-015-694	CAP,ELECT 0.47-50V	△	★ 87-034-992	AC CORD (H ONLY)		89-503
			D45	87-020-110	DIODE 1SS177	C26	★ 87-015-694	CAP,ELECT 0.47-50V	△	★ 87-034-994	AC CORD (U ONLY)		89-110
	89-110-155	TRANSISTOR,2SA1015,GR	D46	87-020-110	DIODE 1SS177	C29	★ 87-015-693	CAP,ELECT 0.33-50	△	★ 82-788-674	AC CORD (E,Z ONLY)		89-110
	89-210-670	TRANSISTOR,2SB1067	D47	87-027-393	DIODE,ZENER HZ4C2	C30	★ 87-015-693	CAP,ELECT 0.33-50	△	★ 87-034-708	AC CORD (K ONLY)		89-111
	89-309-456	TRANSISTOR,2SC945L,P											
	89-318-155	TRANSISTOR,2SC1815,GR	D49	87-027-431	DIODE,ZENER RD-6.2EB	C31	★ 87-015-695	CAP,ELECT 1-50	△	★ 87-085-184	AC CORD BUSHING (H ONLY)		89-206
			D50	87-020-110	DIODE 1SS177	C32	★ 87-015-695	CAP,ELECT 1-50	△	★ 87-085-189	AC CORD BUSHING (U ONLY)		89-318
	89-320-011	TRANSISTOR,2SC2001K	D51	87-020-110	DIODE 1SS177	C35	★ 87-015-698	CAP,ELECT 4.7-50	△	★ 87-085-185	AC CORD BUSHING (E,K,G ONLY)		89-318
	89-408-804	TRANSISTOR,2SD880,Y (H,U ONLY)	D52	87-027-606	DIODE,ZENER HZ7C2L	C36	★ 87-015-698	CAP,ELECT 4.7-50	△PT1	★ 81-766-606	POWER TRANSFORMER (H ONLY)		89-320
	89-412-653	TRANSISTOR,2SD1265 (E,K,Z ONLY)	D54	87-020-110	DIODE 1SS177	C37	★ 87-015-691	CAP,ELECT 0.1-50	△PT1	★ 81-766-607	POWER TRANSFORMER (U ONLY)		89-326
			D55	87-027-555	DIODE,ZENER HZ5C2	D1	87-020-110	DIODE 1SS177	△PT1	★ 81-766-608	POWER TRANSFORMER (E,Z ONLY)		89-326
			D56	87-027-475	DIODE,ZENER HZ-6B1	D2	87-020-110	DIODE 1SS177	△PT1	★ 81-766-609	POWER TRANSFORMER (K ONLY)		89-333
			D57	87-027-475	DIODE,ZENER HZ-6B1	D3	87-020-110	DIODE 1SS177					89-407
--- MAIN CIRCUIT BOARD SECTION ---			D58	87-020-110	DIODE 1SS177	D4	87-020-110	DIODE 1SS177	Note;Combination Circuit Board The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will no be supplied separately. If this becomes necessary, please order the entire circuit board.				
			D59	87-020-110	DIODE 1SS177	D5	87-020-110	DIODE 1SS177					
PCB-A ★ 81-750-611	MAIN CIRCUIT BOARD		D60	87-020-110	DIODE 1SS177	LED1	87-020-556	LED TLG205 (TAPE)	Combination circuit board 81-750-620 PCB-C 81-750-621 PCB-D 81-750-622				
BC1 87-012-110	CAP,BEAD 270P (Z ONLY)		D61	87-020-110	DIODE 1SS177	LED2	87-020-556	LED TLG205 (TUNER)					
BC2 87-012-110	CAP,BEAD 270P (Z ONLY)								△ Safety component symbol This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.				
C1 ★ 87-018-036	CAP,CERA-SOL S 220P		D62	87-020-110	DIODE 1SS177	LED3	87-020-556	LED TLG205 (PHONO)					
C2 ★ 87-018-036	CAP,CERA-SOL S 220P		D63	87-020-110	DIODE 1SS177	LED4	87-020-556	LED TLG205 (AUX)	IC handling precaution IC's construction makes this part susceptible to damage by static electricity and so take sufficient care in regard to following articles. 1. Need to be put on conductive sheet, to be put in a metallic box and to be wrapped by aluminium foil for transportation and deposit. 2. To use solder iron less than 40W (less than 260°C) of power consumption for soldering. But do not overheat more than 10 second. 3. Do not perform a conductivity test with a tester, etc. Refer to the circuit voltages of each part.				
C7 ★ 87-018-024	CAP,CERA-SOL S 47P		D64	87-020-110	DIODE 1SS177	LED5	87-020-556	LED TLG205 (CD)					
C8 ★ 87-018-024	CAP,CERA-SOL S 47P		D65	87-027-475	DIODE,ZENER HZ-6B1	LED6	87-027-679	LED,TLR208 (REC OUT-G.EQ.)	MAIN CIRCUIT BOARD SECTION PCB-A * C3 ★ 87-033- C9 ★ 87-018- C11 ★ 87-018- C13 ★ 87-018- C17 ★ 87-018- C18 ★ 87-018- C86 ★ 87-018- C87 ★ 87-015- C158 ★ 87-010- C159 ★ 87-010- C160 ★ 87-010- C180 ★ 87-010- C181 ★ 87-010- C182 ★ 87-010- C183 ★ 87-010- C400 ★ 87-018- D1 87-027- D3 87-020- D5 87-027- D7 87-020- D15 87-020- D16 87-020- D17 87-027- D18 87-020- D19 87-020- D20 87-020-				
C39 ★ 87-018-035	CAP,CERA-SOL 180P		D66	87-027-393	DIODE,ZENER HZ4C2	LED7	87-027-679	LED,TLR208 (DSL)					
C40 ★ 87-018-035	CAP,CERA-SOL 180P		D67	87-020-110	DIODE 1SS177	LED8	87-027-679	LED,TLR208 (SURROUND)					
C73 ★ 87-018-008	CAP,CERA-SOL S 8.2P		D68	87-027-475	DIODE,ZENER HZ-6B1	LED9	87-027-679	LED,TLR208 (MUTING)					
C74 ★ 87-018-008	CAP,CERA-SOL S 8.2P		D69	87-027-431	DIODE,ZENER RD-6.2E	LED10	87-020-550	LED TLG208-5 (VOLUME INDICATOR)	AC OUTLET CIRCUIT BOARD SECTION PCB-C * AC OUTLET CIRCUIT BOARD				
C77 ★ 87-018-039	CAP,CERA-SOL S 390P		D70	87-020-400	DIODE 1SR35-200	LED11	87-020-550	LED TLG208-5 (VOLUME INDICATOR)					
C78 ★ 87-018-039	CAP,CERA-SOL S 390P		D71	87-027-376	DIODE 1B4B41	SW1	87-031-771	TACT SW (TAPE)					
C81 ★ 87-015-682	CAP,ELECT 22-16		D72	87-027-555	DIODE,ZENER HZ5C2	SW2	87-031-771	TACT SW (TUNER)					
C83 ★ 87-018-045	CAP,CERA-SOL S 2200P		D73	87-020-110	DIODE 1SS177	SW3	87-031-771	TACT SW (PHONO)					
C101 ★ 87-018-044	CAP,CERA-SOL S 1000P												
			D75	87-020-110	DIODE 1SS177	SW4	87-031-771	TACT SW (AUX)					
C103 ★ 87-018-042	CAP,CERA-SOL S 680P		J1	87-049-420	PIN JACK 4P-14 (PHONO) L	SW5	87-031-771	TACT SW (CD)					
D1 87-027-225	DIODE,ZENER 05Z-5.1X(TP)		J2	+++	PIN JACK 4P-14 (PHONO) R	SW6	81-750-625	PUSH SW 4 KEYS (REC OUT-G.EQ.)					
D2 87-020-110	DIODE 1SS177		J3	+++	PIN JACK 4P-14 (CD) L	SW7	81-750-625	PUSH SW 4 KEYS (DSL)					
D3 87-020-110	DIODE 1SS177												
			J4	+++	PIN JACK 4P-14 (CD) R	SW8	81-750-625	PUSH SW 4 KEYS (SURROUND)					
D4 87-020-110	DIODE 1SS177		J5	87-049-450	PIN JACK,4P (AUX) L	SW9	81-750-625	PUSH SW 4 KEYS (MUTING)					
D5 87-020-110	DIODE 1SS177		J6	+++	PIN JACK,4P (AUX) R	SW10	87-031-897	PUSH SW (POWER)					
D6 87-020-110	DIODE 1SS177		J7	+++	PIN JACK,4P (REC OUT-G.EQ.) L	SW11	87-031-771	TACT SW (VOLUME UP)					
D7 87-020-110	DIODE 1SS177												
			J8	+++	PIN JACK,4P (REC OUT-G.EQ.) R	SW12	87-031-771	TACT SW (VOLUME DOWN)					
D8 87-020-110	DIODE 1SS177		J9	81-750-630	JACK,ASSY (TUNER)	VR1	87-021-956	SLIDE VR 20KB (7BAND G.EQ.,40HZ)					
D9 87-020-110	DIODE 1SS177		J10	+++	JACK,ASSY (TAPE)	VR2	87-021-956	SLIDE VR 20KB (7BAND G.EQ.,125HZ)					
D11 87-020-110	DIODE 1SS177		J11	+++	JACK,ASSY (CONTROL)	VR3	87-021-956	SLIDE VR 20KB (7BAND G.EQ.,330HZ)					
D12 87-020-110	DIODE 1SS177												
			J15	87-049-067	MIC JACK 6.3 (MIX MIC)	VR4	87-021-956	SLIDE VR 20KB (7BAND G.EQ.,1KHZ)					
D13 87-020-110	DIODE 1SS177		J19	★ 87-049-659	BP CONNECTOR SOCKET 13P (REMOTE)	VR5	87-021-956	SLIDE VR 20KB (7BAND G.EQ.,2.5KHZ)					
D14 87-020-110	DIODE 1SS177		VR1	87-021-922	VOLUME 50KW (BALANCE)	VR6	87-021-956	SLIDE VR 20KB (7BAND G.EQ.,6.3KHZ)					
D15 87-020-110	DIODE 1SS177		VR2	87-021-921	VOLUME 10KB (MIC VOL.)	VR7	87-021-956	SLIDE VR 20KB (7BAND G.EQ.,15KHZ)					
D17 87-020-110	DIODE 1SS177												
--- FRONT CIRCUIT BOARD SECTION ---			--- AC OUTLET CIRCUIT BOARD SECTION ---										
D18 87-020-110	DIODE 1SS177		PCB-B ★ 81-752-620 FRONT CIRCUIT BOARD			PCB-C * AC OUTLET CIRCUIT BOARD							
D19 87-020-110	DIODE 1SS177												
D21 87-020-110	DIODE 1SS177												

ELECTRICAL MAIN PARTS LIST (BX-770)

- +++ mark denotes a component of assembled part which part code is represented by a previously stated component.
- ★ -mark means less required items and availabilities may be limited.

CAPACITORS
No mark, U, UF: μF
P, PF : pF

COILS
MMH: mH
UH : μ H

FUSE
MMA: mA

on	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
Y) TS)(H ONLY) TS)(U ONLY) TS)(E,Z ONLY) TS)(K ONLY) TS)(H ONLY) TS)(U ONLY) TS)(E,Z ONLY) TS)(K ONLY) H ONLY) === T BOARD SELECTOR)(H ONLY)	=== IC ===			D21	87-020-110	DIODE 1SS177	C211	★ 87-015-694	CAP,ELECT 0.47-50V	△R14	★ 87-029-029	RES,FUSIBLE,1/4W-68 (EXCEPT H)
		87-020-431	IC,BA658	D25	87-020-110	DIODE 1SS177	C214	★ 87-015-696	CAP,ELECT 2.2-50	△R42	★ 87-025-368	RES,MF 1.2K (EXCEPT H)
		87-020-429	IC,LB1290	D26	87-020-110	DIODE 1SS177	C215	★ 87-015-694	CAP,ELECT 0.47-50V	△R44	★ 87-029-112	RES,FUSIBLE 1/4W-330
		87-020-547	IC,LB1292	D27	87-020-400	DIODE 1SR35-200	C218	★ 87-015-696	CAP,ELECT 2.2-50	△SFR2	★ 87-021-856	SFR 100
		87-020-633	IC,M4052 BP	D28	87-020-400	DIODE 1SR35-200	C219	★ 87-015-694	CAP,ELECT 0.47-50V	=== FUSE CIRCUIT BOARD SECTION(EXCEPT H) ===		
				D29	87-020-110	DIODE 1SS177	C220	★ 87-018-041	CAP,CERA-SOL S 560P			
		87-020-548	IC,M5228P	D30	87-020-110	DIODE 1SS177	C221	★ 87-018-041	CAP,CERA-SOL S 560P			
		87-027-235	IC,NJM4558D	D31	87-027-555	DIODE,ZENER HZ5C2	C222	★ 87-015-696	CAP,ELECT 2.2-50			
		87-020-549	IC,STK1070A	D32	87-020-110	DIODE 1SS177	C223	★ 87-015-694	CAP,ELECT 0.47-50V			
		87-027-298	IC,TC4001 BP	D33	87-020-110	DIODE 1SS177	C224	★ 87-018-037	CAP,CERA-SOL S 270P			
H ONLY) === T BOARD SELECTOR)(H ONLY)		87-020-207	IC,TC4022BP	D34	87-020-110	DIODE 1SS177	C225	★ 87-018-037	CAP,CERA-SOL S 270P			
		87-027-656	IC,TC4066BP	D35	87-020-110	DIODE 1SS177	C226	★ 87-015-696	CAP,ELECT 2.2-50			
		87-027-787	IC,UPC1237H	D36	87-020-110	DIODE 1SS177	C227	★ 87-015-694	CAP,ELECT 0.47-50V			
				D37	87-020-400	DIODE 1SR35-200	C229	★ 87-015-691	CAP,ELECT 0.1-50			
				D38	87-027-479	DIODE,ZENER HZ27-2	C230	★ 87-015-694	CAP,ELECT 0.47-50V			
				D39	87-020-144	DIODE DBA4DC	C231	★ 87-015-682	CAP,ELECT 22-16			
				D40	87-027-788	DIODE D5FB20	C233	★ 87-015-682	CAP,ELECT 22-16			
				D41	87-020-110	DIODE 1SS177	C250	★ 87-015-682	CAP,ELECT 22-16			
				D70	87-020-110	DIODE 1SS177	C252	★ 87-018-137	CAP,CERA-SOL S 3300P			
				D71	87-020-400	DIODE 1SR35-200	C254	★ 87-015-682	CAP,ELECT 22-16			
ONLY) ONLY) ,K,G ONLY) (H ONLY) (U ONLY) (E,Z ONLY) (K ONLY)	=== TRANSISTOR ===			△F1	87-035-258	FUSE 5A (H ONLY)	C255	★ 87-015-682	CAP,ELECT 22-16			
		89-206-882	TRANSISTOR,2SB688	△F1	87-035-302	FUSE 4A (U ONLY)	C256	★ 87-018-044	CAP,CERA-SOL S 1000P			
		89-318-156	TRANSISTOR,2SC1815,BL	△F1	87-035-367	FUSE T3.15A (E,K,Z ONLY)	C288	★ 87-015-696	CAP,ELECT 2.2-50			
		89-318-154	TRANSISTOR,2SC1815,Y	△F2	87-035-258	FUSE 5A (H ONLY)	D51	87-020-110	DIODE 1SS177			
		89-320-011	TRANSISTOR,2SC2001K	△F2	87-035-302	FUSE 4A (U ONLY)	D52	87-020-110	DIODE 1SS177			
				△F2	87-035-367	FUSE T3.15A (E,K,Z ONLY)	D53	87-020-110	DIODE 1SS177			
		89-326-326	TRANSISTOR,2SC2632 R	J2	81-738-630	JACK PLATE ASSY (AFBS R)	D54	87-020-110	DIODE 1SS177			
		89-326-553	TRANSISTOR,2SC2655,0	J3	81-738-630	JACK PLATE ASSY (AFBS L)	D55	87-020-110	DIODE 1SS177			
		89-333-810	TRANSISTOR,2SC3381	J4	87-049-360	JACK 6.3 S (HEADPHONE)	D56	87-020-110	DIODE 1SS177			
		89-407-182	TRANSISTOR,2SD718	J5	87-049-507	JACK 3.5 (SURROUND SP L)	D57	87-020-110	DIODE 1SS177			
indicated by an ed circuit board. If this becomes		89-412-753	TRANSISTOR,2SD1275	J6	87-049-507	JACK 3.5 (SURROUND SP R)	D58	87-020-110	DIODE 1SS177			
		89-413-023	TRANSISTOR,2SD1302S	J7	★ 87-033-191	SPEAKER TERMINAL (SPEAKER B)	D59	87-027-686	DIODE,ZENER HZ12A1			
				L1	★ 87-005-158	INDUCTOR 1 UH	D60	87-020-110	DIODE 1SS177			
				L2	★ 87-005-158	INDUCTOR 1 UH	D61	87-020-110	DIODE 1SS177			
				PTH1	★ 87-026-270	POSISTOR 10 (U ONLY)	D62	★ 87-027-679	LED,TLR208 (AFBS-SPEAKER A)			
				R5	★ 87-025-367	RES,MF 1K (EXCEPT H)	FL	★ 81-738-640	FL,CP1057GR			
				R7	★ 87-025-367	RES,MF 1K (EXCEPT H)	SW4	87-031-897	PUSH SW (POWER)			
				△R13	87-029-029	RES,FUSIBLE,1/4W-68 (EXCEPT H)	=== AFBS CIRCUIT BOARD SECTION ===					
				R41	★ 87-025-368	RES,MF 1.2K (EXCEPT H)						
				△R43	★ 87-029-112	RES,FUSIBLE 1/4W-330						
erve to maintain nform to special component with signed part.	PCB-A	* MAIN CIRCUIT BOARD		△R135	★ 87-025-347	RES,MFO 2W10 (F)	PCB-C	* AFBS CIRCUIT BOARD				
	★ 87-033-147	FUSE CLAMP		△R136	★ 87-025-347	RES,MFO 2W10 (F)	C4	★ 87-010-367	CAP,ELECT BP S4.7-25V			
	★ 87-010-367	CAP,ELECT BP S4.7-25V		△R210	★ 87-025-348	RES,NONFLAM 1W270	C6	★ 87-018-034	CAP,CERA-SOL S 150P			
	★ 87-018-034	CAP,CERA-SOL S 150P		△R211	★ 87-025-348	RES,NONFLAM 1W270	C8	★ 87-018-037	CAP,CERA-SOL S 270P			
							C9	★ 87-018-028	CAP,CERA-SOL 68P			
	C7	★ 87-018-037	CAP,CERA-SOL S 270P				C10	★ 87-018-009	CAP,CERA-SOL S 10P			
	C9	★ 87-018-009	CAP,CERA-SOL S 10P				C12	★ 87-018-098	CAP,TC SS 3.3P			
	C11	★ 87-018-098	CAP,TC SS 3.3P				C14	★ 87-018-005	CAP,CERA-SOL S,4.7P			
	C13	★ 87-018-005	CAP,CERA-SOL S,4.7P									
amage by static ollowing articles. in a metallic box nsportation and 60°C) of power at more than 10 er, etc. Refer to				△R253	★ 87-025-403	RES,NONFLAM 2W 1.5K	C18	★ 87-018-042	CAP,CERA-SOL S 680P			
				△R254	★ 87-025-403	RES,NONFLAM 2W 1.5K	C23	★ 87-010-244	CAP,ELECT 22-16			
				△R500	★ 87-029-089	RES,FUSIBLE,1/4W-4.7 (EXCEPT U)	C26	★ 87-010-067	CAP,ELECT 0.1-50			
				RY1	★ 87-045-252	RELAY G5R24V-2	C28	★ 87-015-692	CAP,ELECT 0.22-50V			
				RY2	★ 87-045-224	RELAY G2R 24V-2	C39	★ 87-018-034	CAP,CERA-SOL S 150P			
				RY3	★ 87-045-257	RELAY G4U24V	C40	★ 87-018-034	CAP,CERA-SOL S 150P			
				SFR1	★ 87-021-734	SFR 100	C65	★ 87-018-042	CAP,CERA-SOL S 680P			
				SW1	87-031-967	PUSH SW (AFBS)	C66	★ 87-018-042	CAP,CERA-SOL S 680P			
				SW2	+++	PUSH SW (SPEAKER A)						
				SW3	+++	PUSH SW (SPEAKER B)						
	=== FRONT CIRCUIT BOARD SECTION ===							D2	87-027-469	DIODE,ZENER HZ16-2		
								D4	87-020-110	DIODE 1SS177		
								D6	87-027-469	DIODE,ZENER HZ16-2		
								D8	87-020-110	DIODE 1SS177		
								D10	87-027-625	DIODE,ZENER 05Z-6.8X		
								D11	87-027-625	DIODE,ZENER 05Z-6.8X		
								R6	★ 87-025-367	RES,MF 1K (EXCEPT H)		
								R8	★ 87-025-367	RES,MF 1K (EXCEPT H)		

Note; Combination Circuit Board

The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board 81-751-610

PCB-A 81-751-611

PCB-C 81-751-612

PCB-D 81-751-613 (EXCEPT H)

PCB-E 81-751-614 (H ONLY)

△ Safety component symbol

This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

IC handling precaution

IC's construction makes this part susceptible to damage by static electricity and so take sufficient care in regard to following articles.

1. Need to be put on conductive sheet, to be put in a metallic box and to be wrapped by aluminium foil for transportation and deposit.
2. To use solder iron less than 40W (less than 260°C) of power consumption for soldering. But do not overheat more than 10 second.
3. Do not perform a conductivity test with a tester, etc. Refer to the circuit voltages of each part.

Note: Combination Circuit Board

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Combination circuit board 81-751-610

PCB-A 81-751-611
PCB-C 81-751-612
PCB-D 81-751-613 (EXCEPT
PCB-E 81-751-614 (H ONLY)

 **Safety component symbol**

■ Safety component symbol:
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.




IC handling precaution

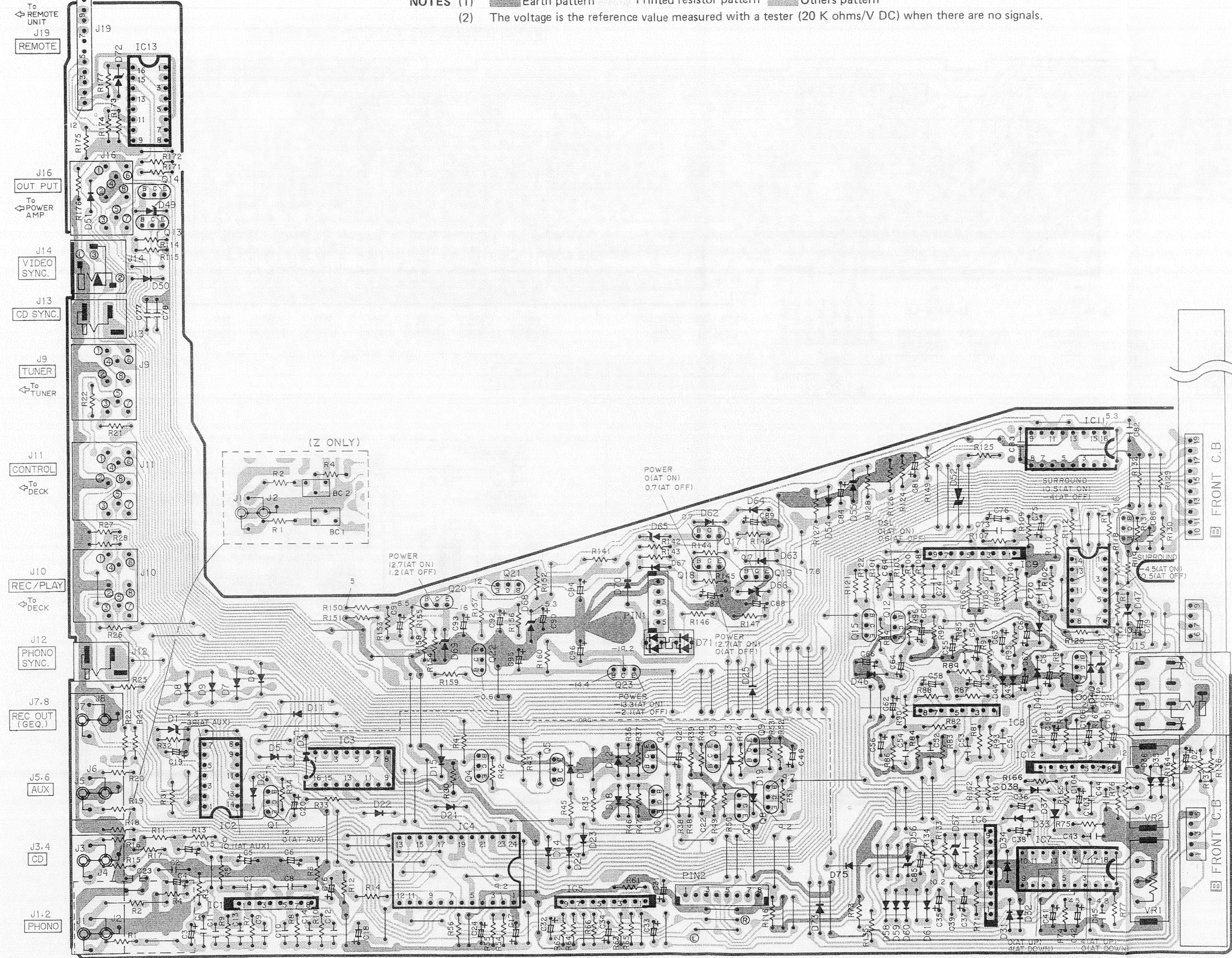
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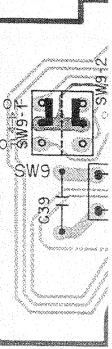
A
B
C
D
E
F
G
H
I
J
K

A MAIN C.B

- NOTES (1)  Earth pattern  Printed resistor pattern  Others pattern
(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

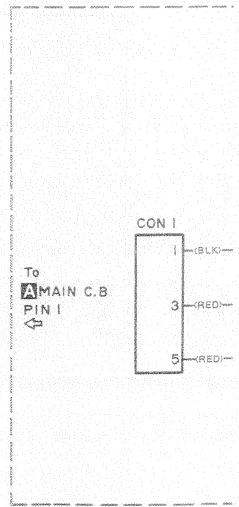


FR



SW9
MUTING

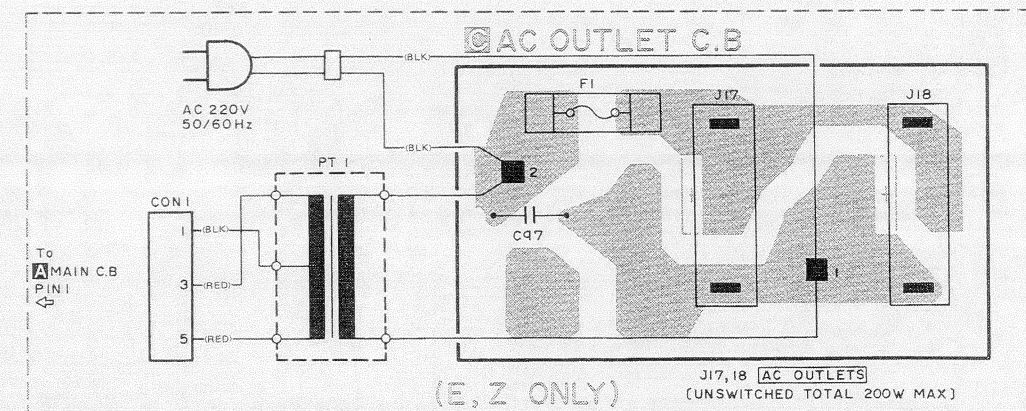
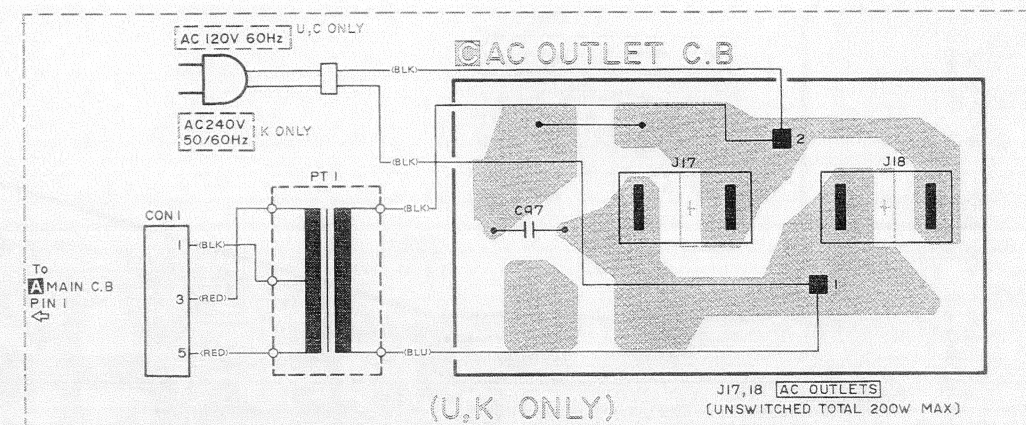
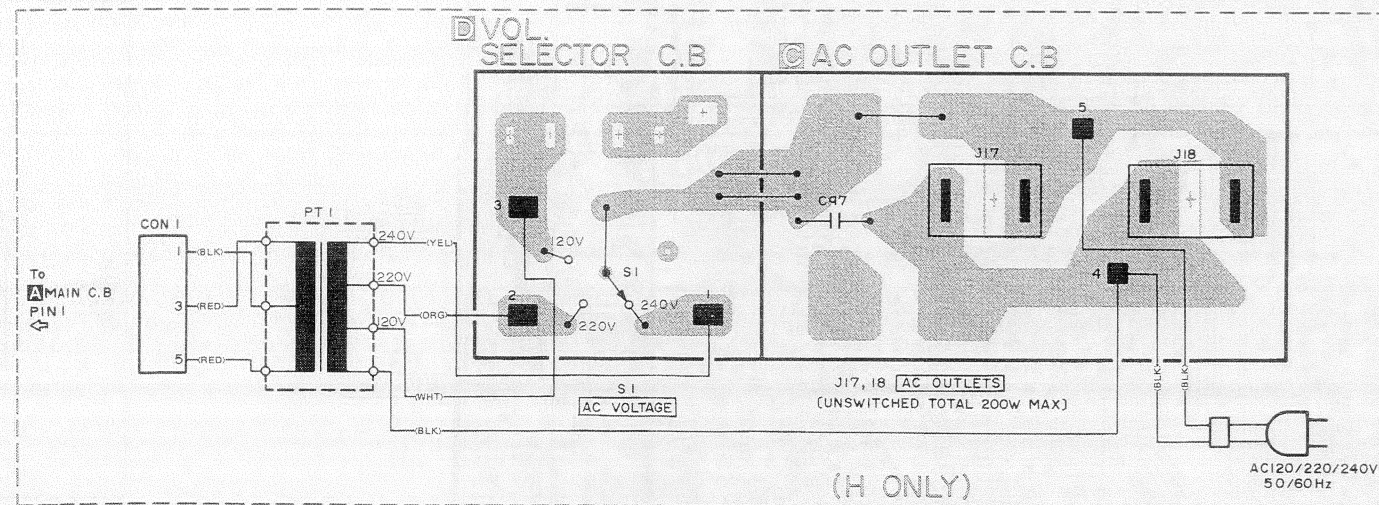
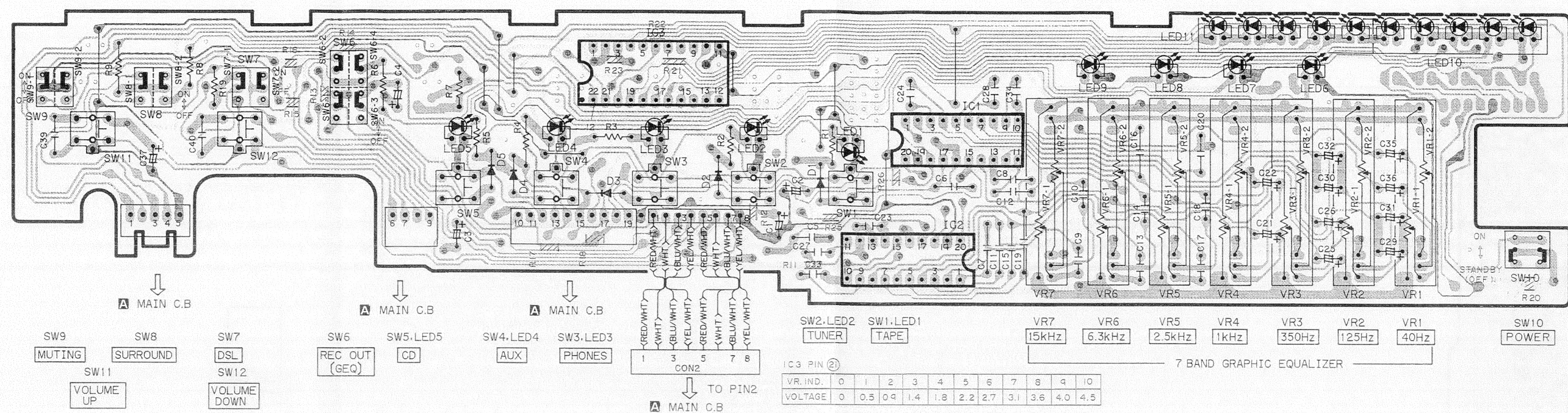
V

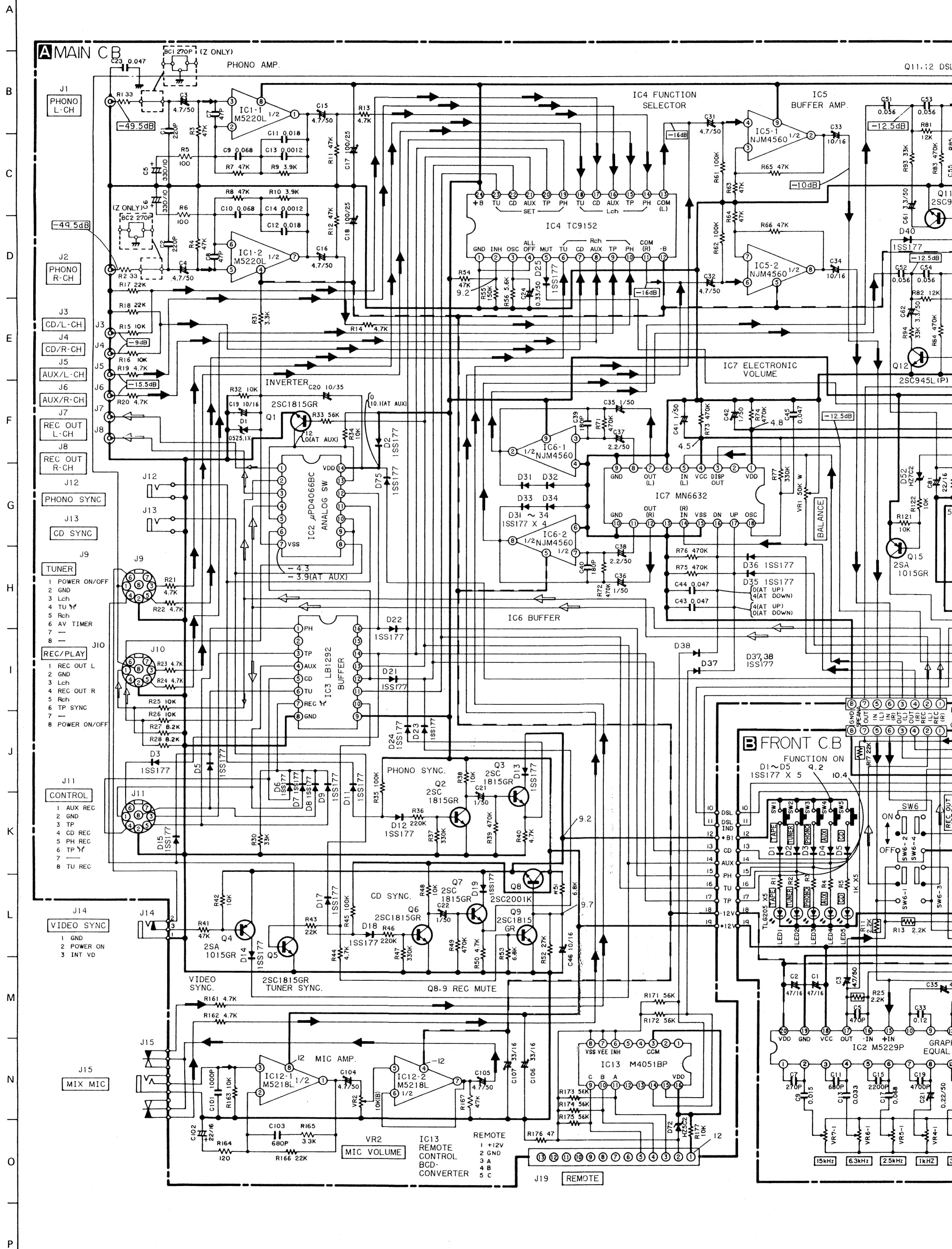


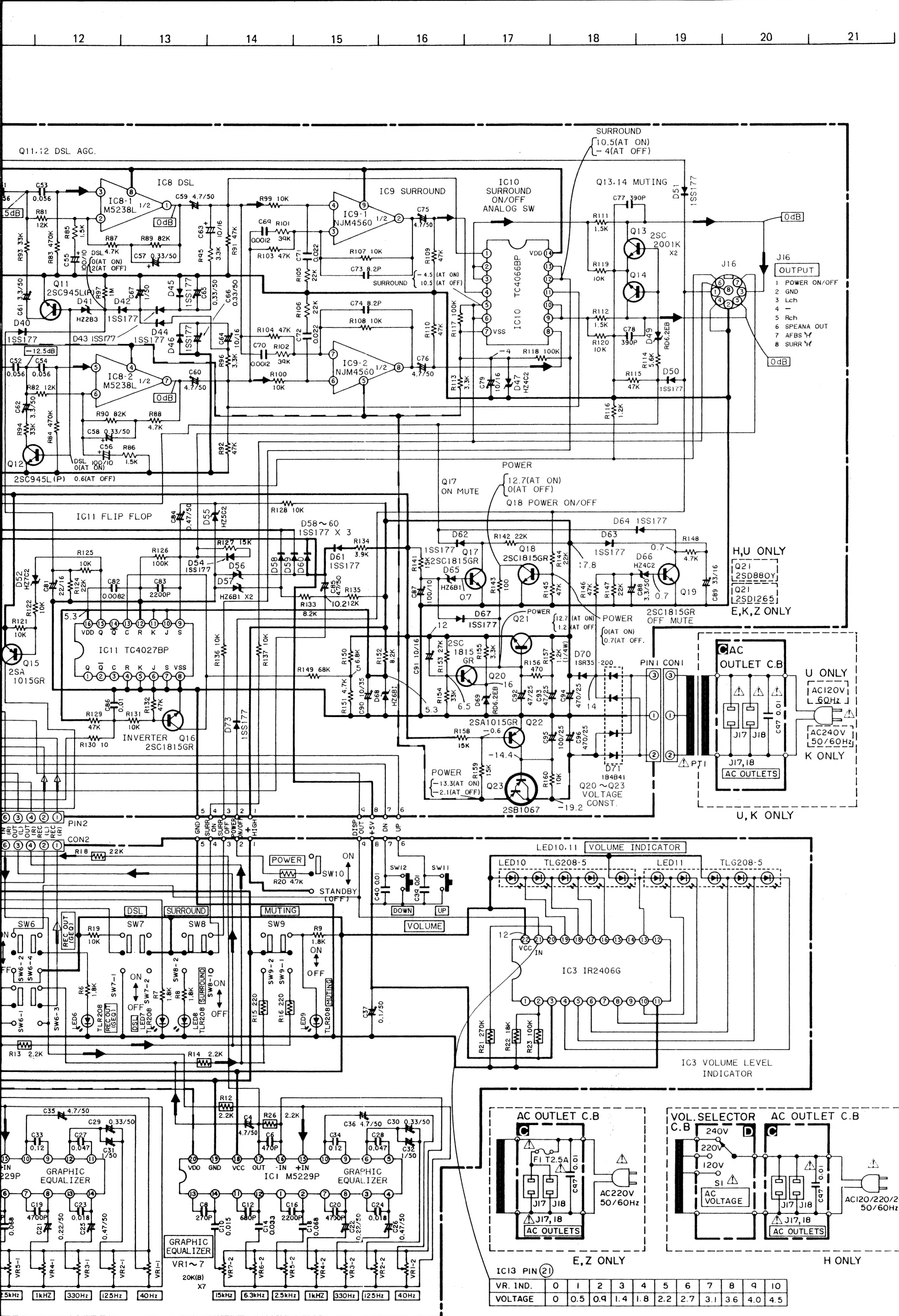
To
MAIN C.B
PIN 1



B FRONT C.B







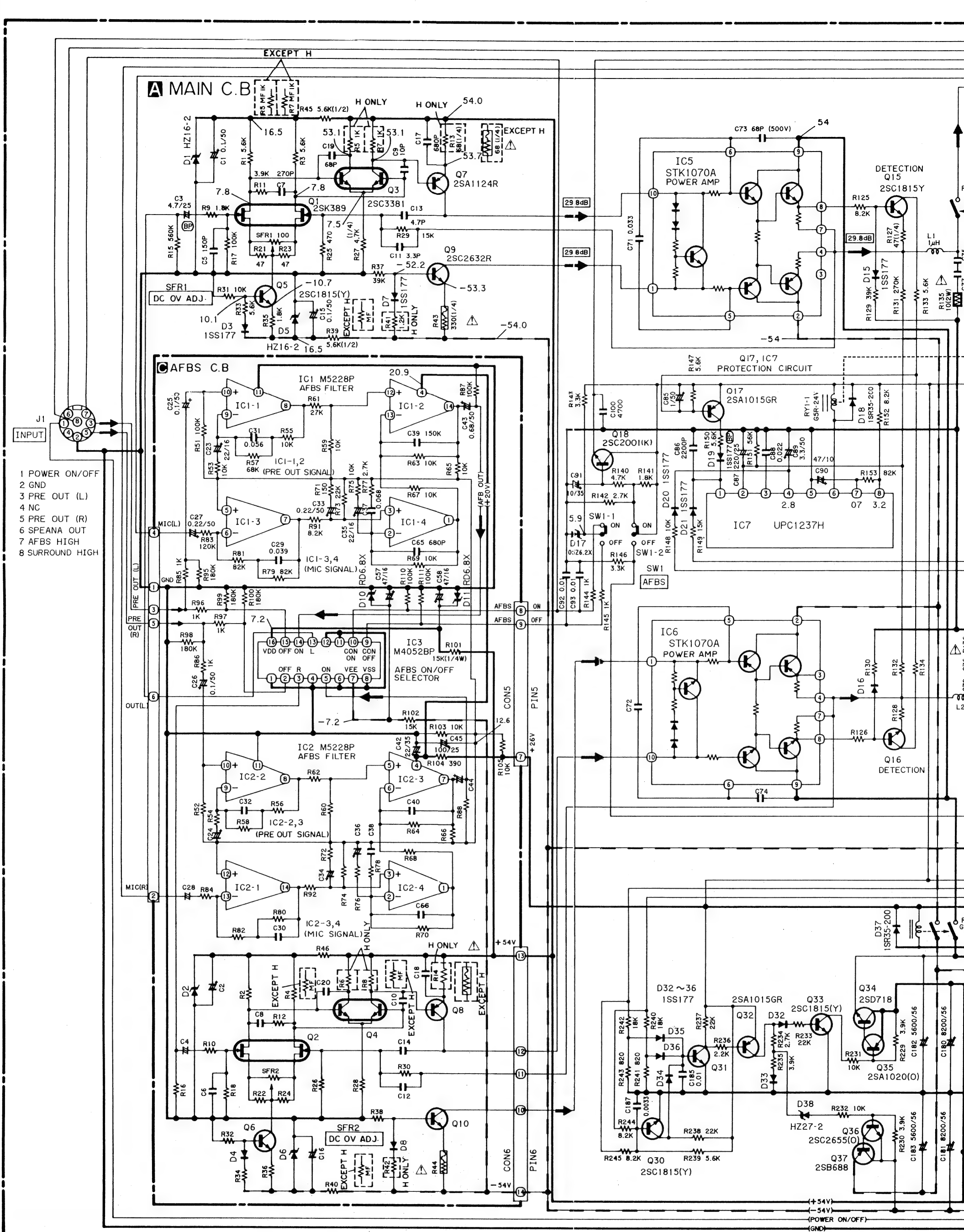
⚠ Safety component symbol

This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

NOTES:

- 1) B (+) power supply
- 2) Signal path
- Rec path

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P



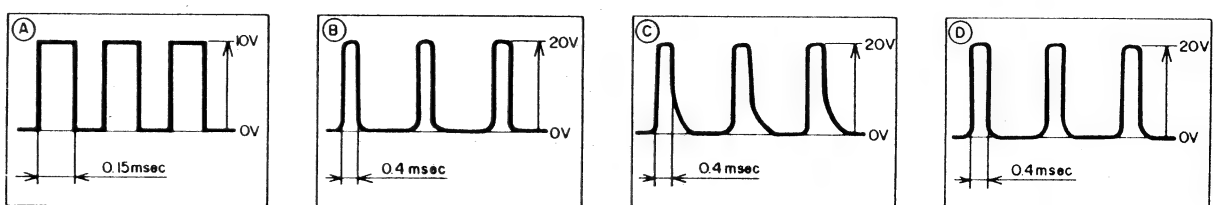
- J1 INPUT
- 1 POWER ON/OFF
 - 2 GND
 - 3 PRE OUT (L)
 - 4 NC
 - 5 PRE OUT (R)
 - 6 SPEAK OUT
 - 7 AFBS HIGH
 - 8 SURROUND HIGH

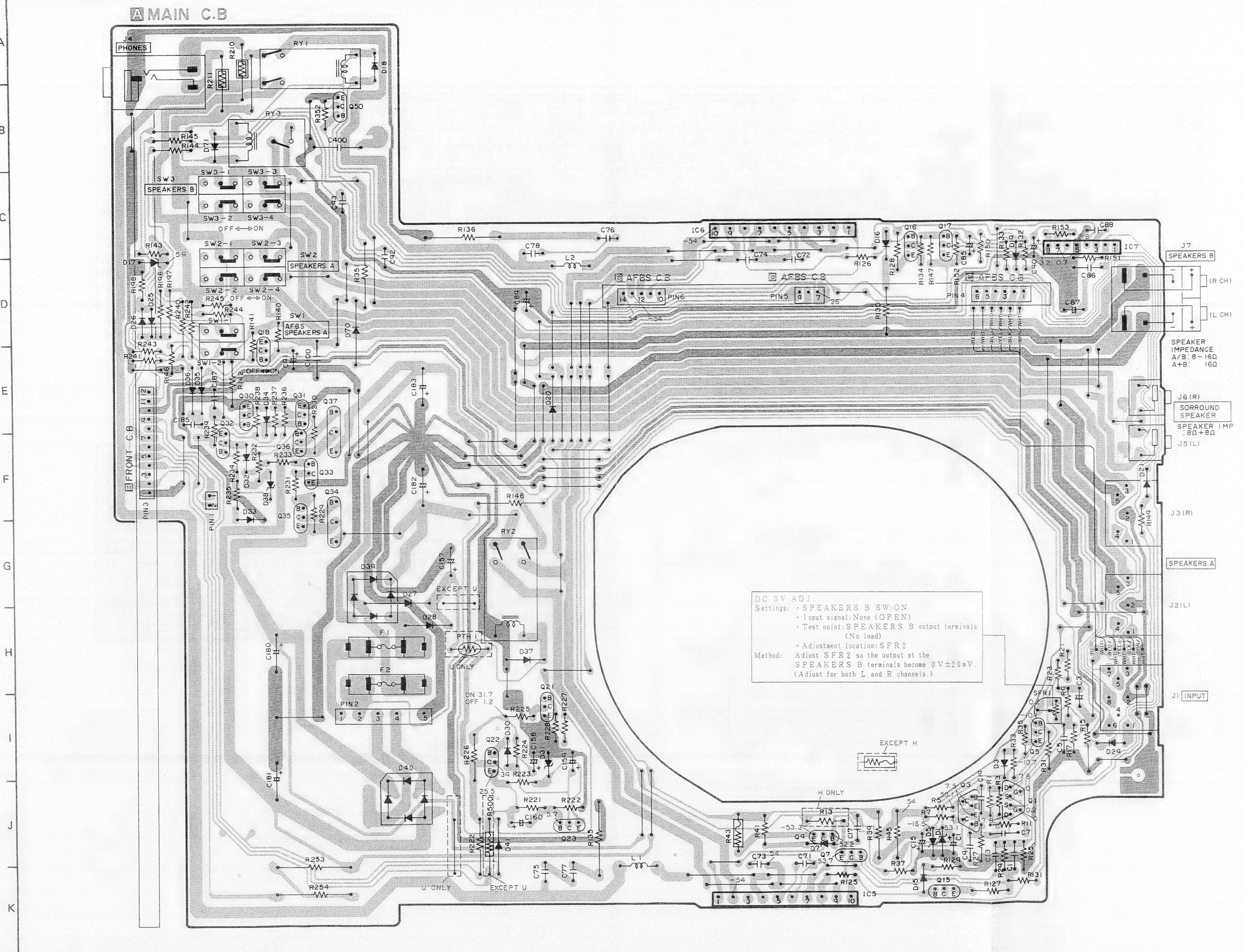
Note: The constant of R-ch is the same as that of L-ch.

Safety component symbol

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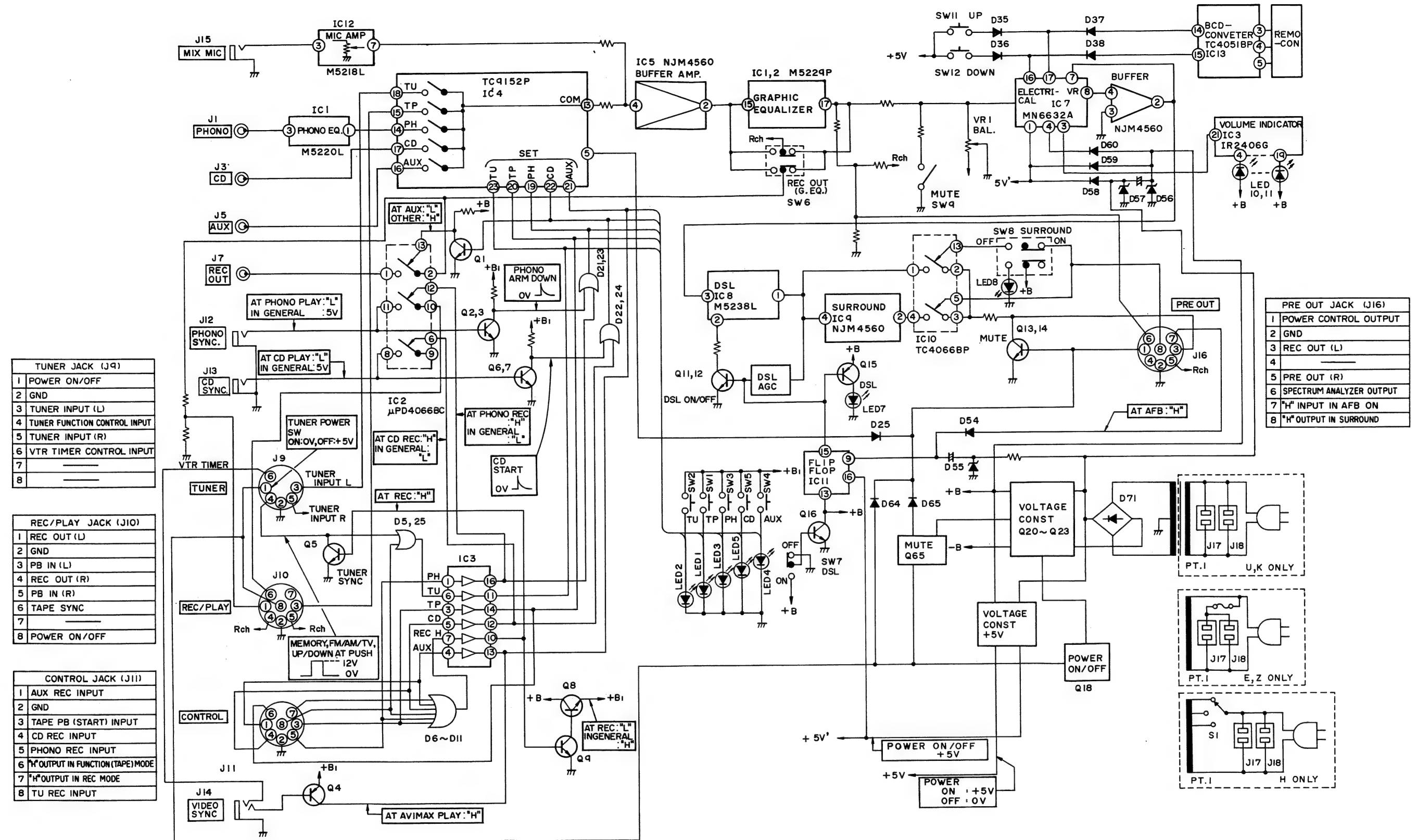
- NOTES:**
- 1) B (+) power supply
 - 2) Signal path



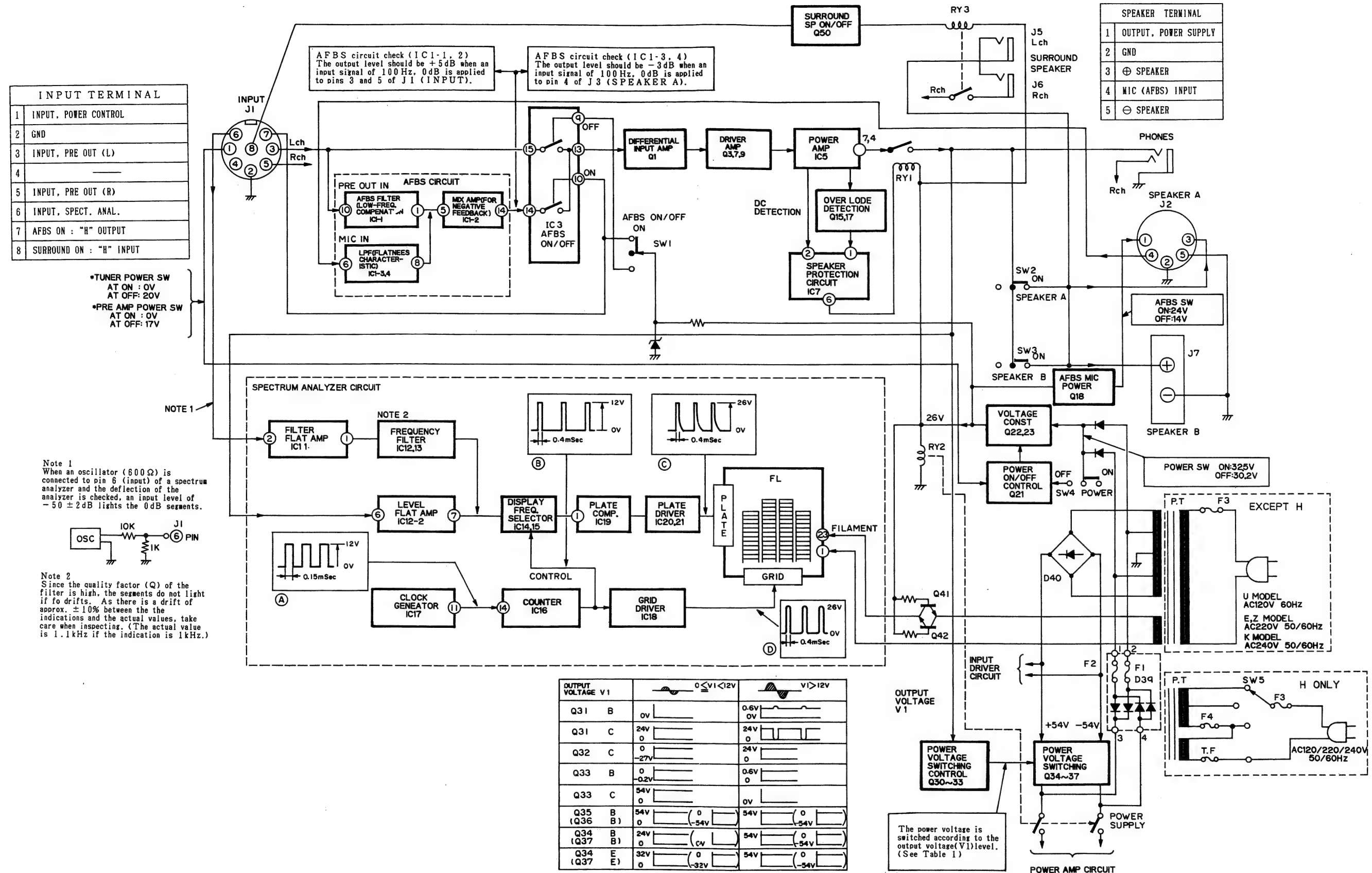


- 22

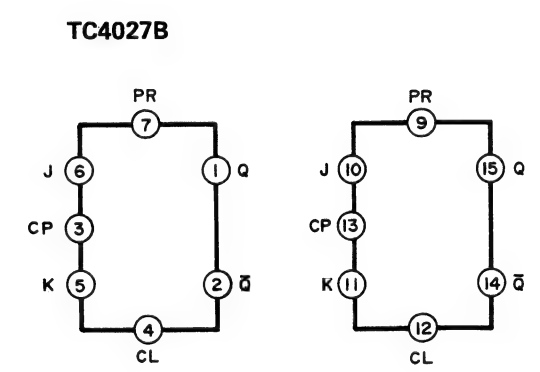
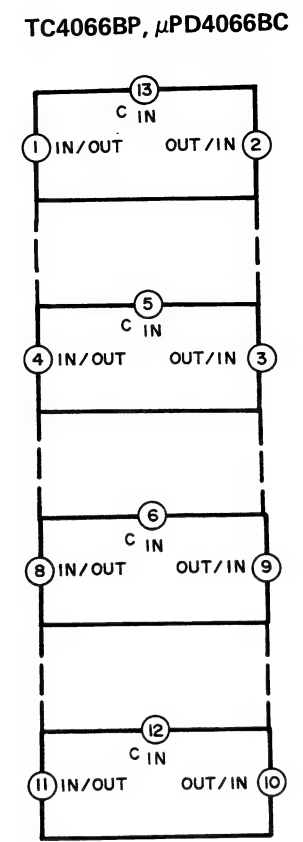
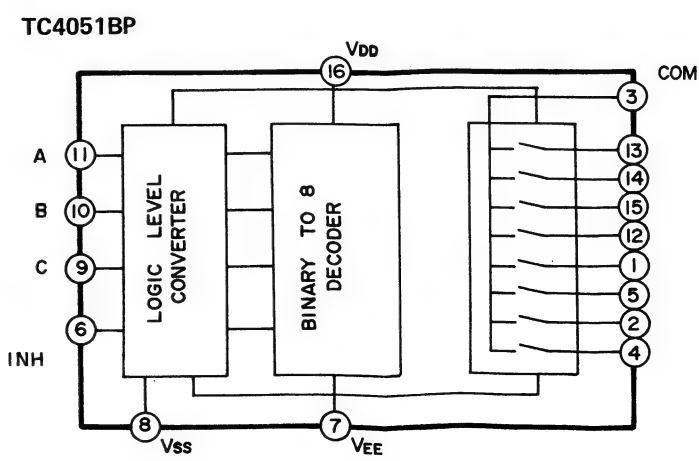
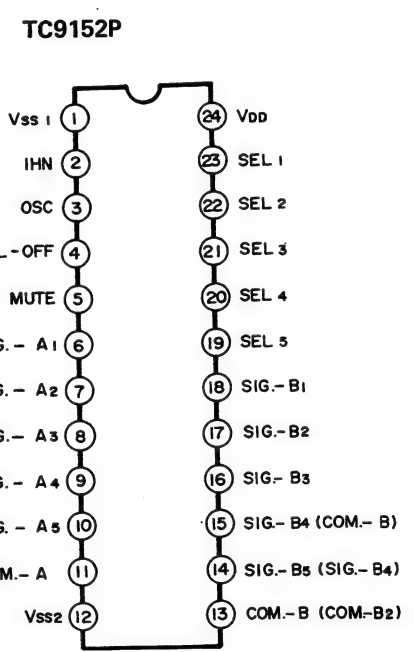
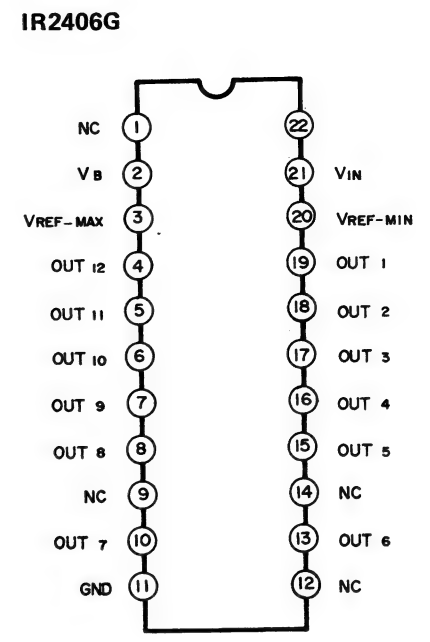
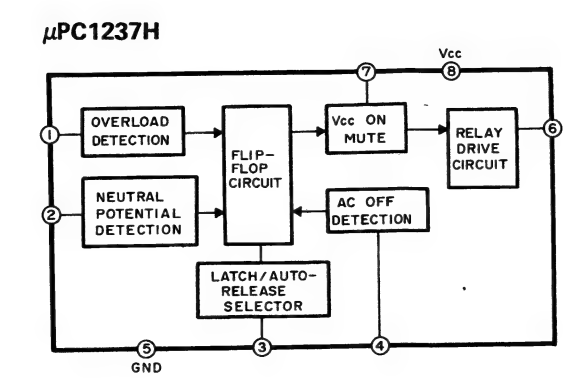
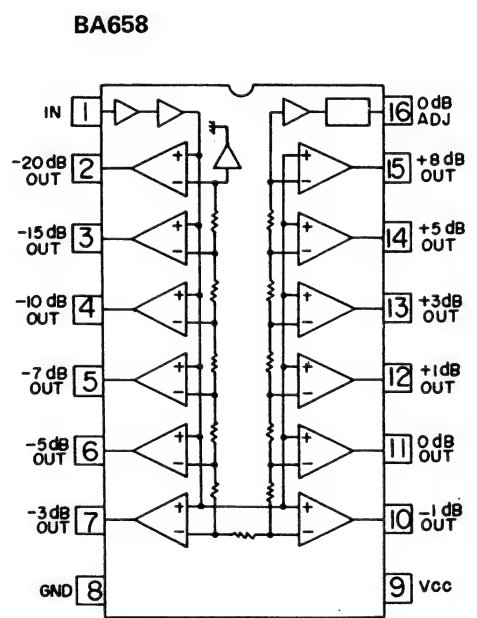
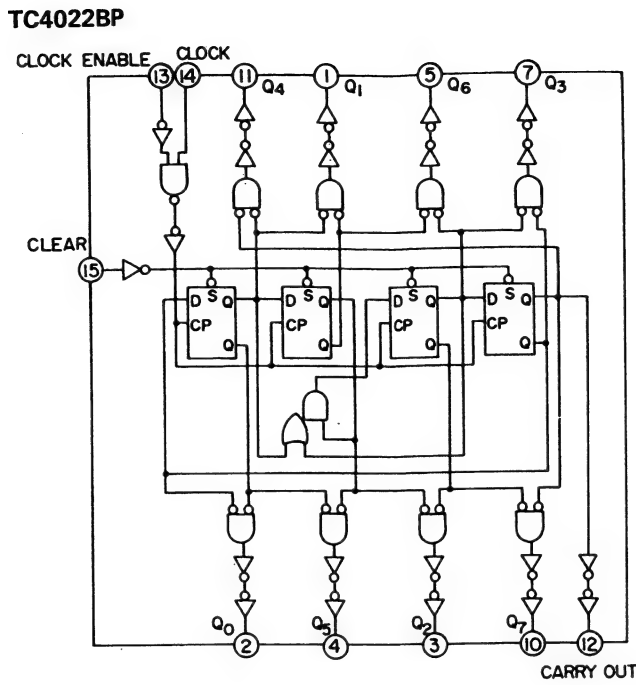
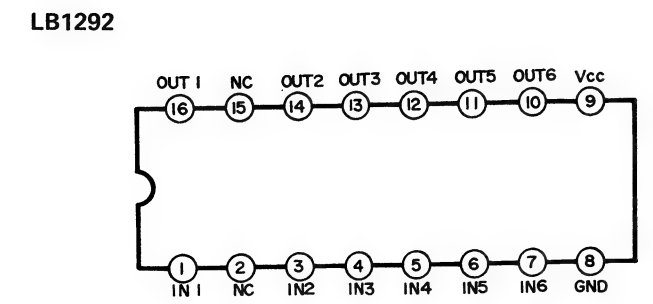
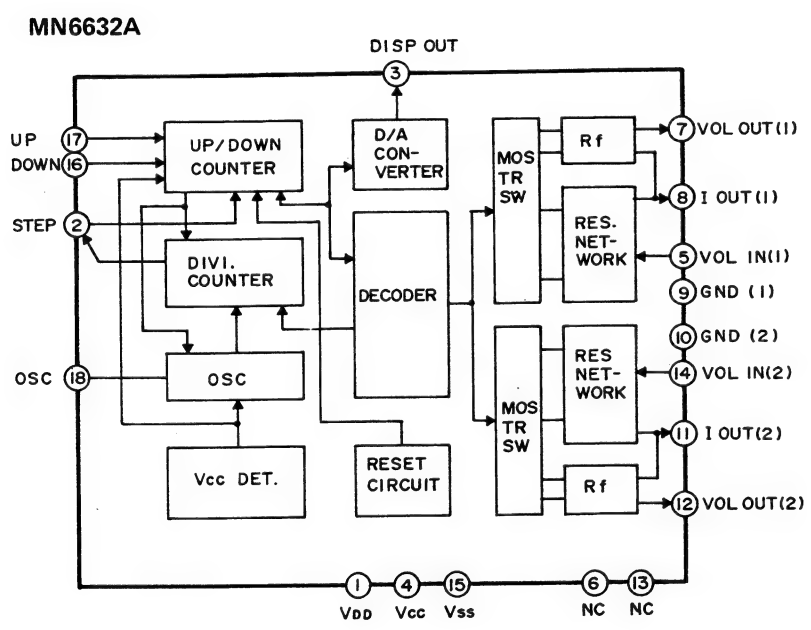
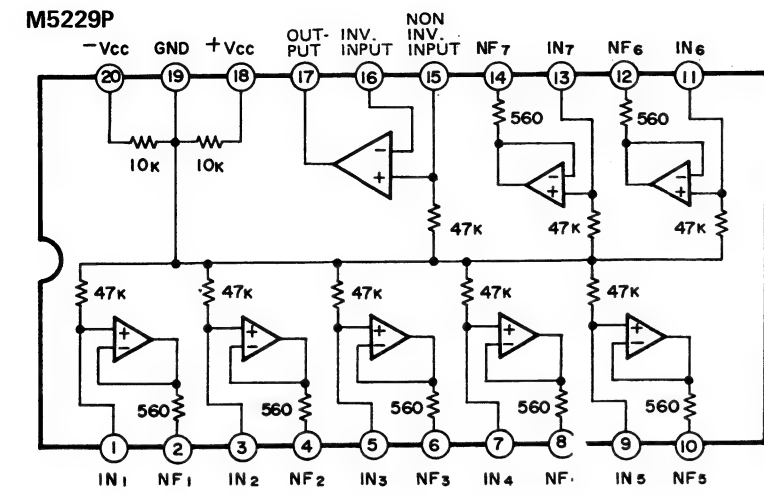
• BLOCK DIAGRAM (GX-770)



• BLOCK DIAGRAM (BX-770)



● IC BLOCK DIAGRAM (GX-770·BX-770)



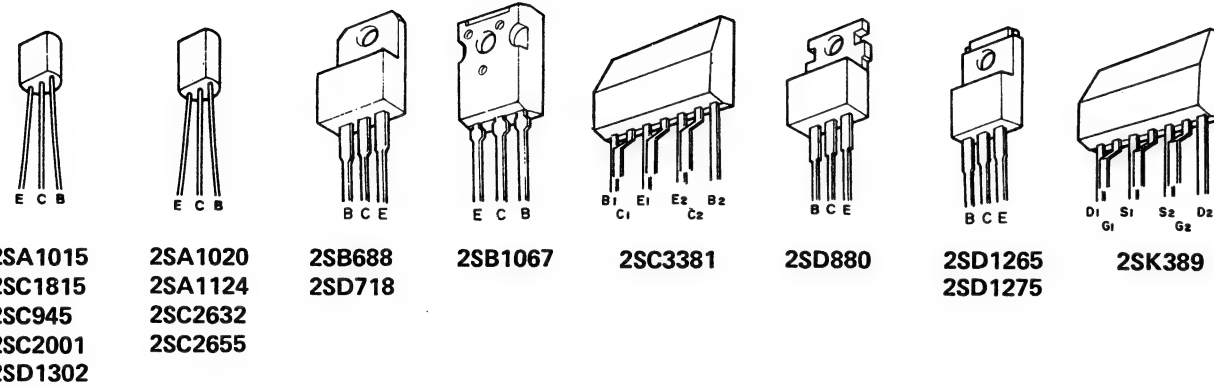
TRUTH TABLE

CONTROL INPUTS				"ON" CHANNEL
INHIBIT	C	B	A	
L	L	L	L	0
L	L	L	H	1
L	L	H	L	2
L	L	H	H	3
L	H	L	L	4
L	H	L	H	5
L	H	H	L	6
L	H	H	H	7
H	*	*	*	NOTE












* Don't Care

Practical Service Figure (GX-770)

Total harmonic distortion:	Less than 0.01%
Residual noise:	Less than 30 μ V
Channel separation:	More than 50 dB
Graphic equalizer response:	± 12 dB



NOTES:

- 1) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals.
- 2) Resistors with no designation have a rated power of 1/8W and a tolerance of $\pm 5\%$.
- 3) Capacitors with no designation have a dielectric strength of less than 50VV.
- 4) The only capacitor tolerance indicated are $\pm 5\%$ (J) and $\pm 10\%$ (K).
- 5) Ceramic capacitor symbols:
 - |—|— For temperature compensation (SL)
 - |—|— High dielectric constant system (YY)
 - |—|— High dielectric constant system (YW, YP, YZ)
 - |—|— Semiconductor ceramic
 - |—|— For temperature compensation (SH)
- 6) Explanation of symbols
 -  Mylar capacitor
 -  Aluminum solid capacitor
 -  Polypropylene film capacitor
 -  Bi-polarized capacitor
 -  Low-leakage capacitor
 -  Tantalum capacitor
 -  Styrol capacitor
 -  Printed resistor
 -  Fuse resistor
 -  Nonflammable resistor
 -  Low noise resistor

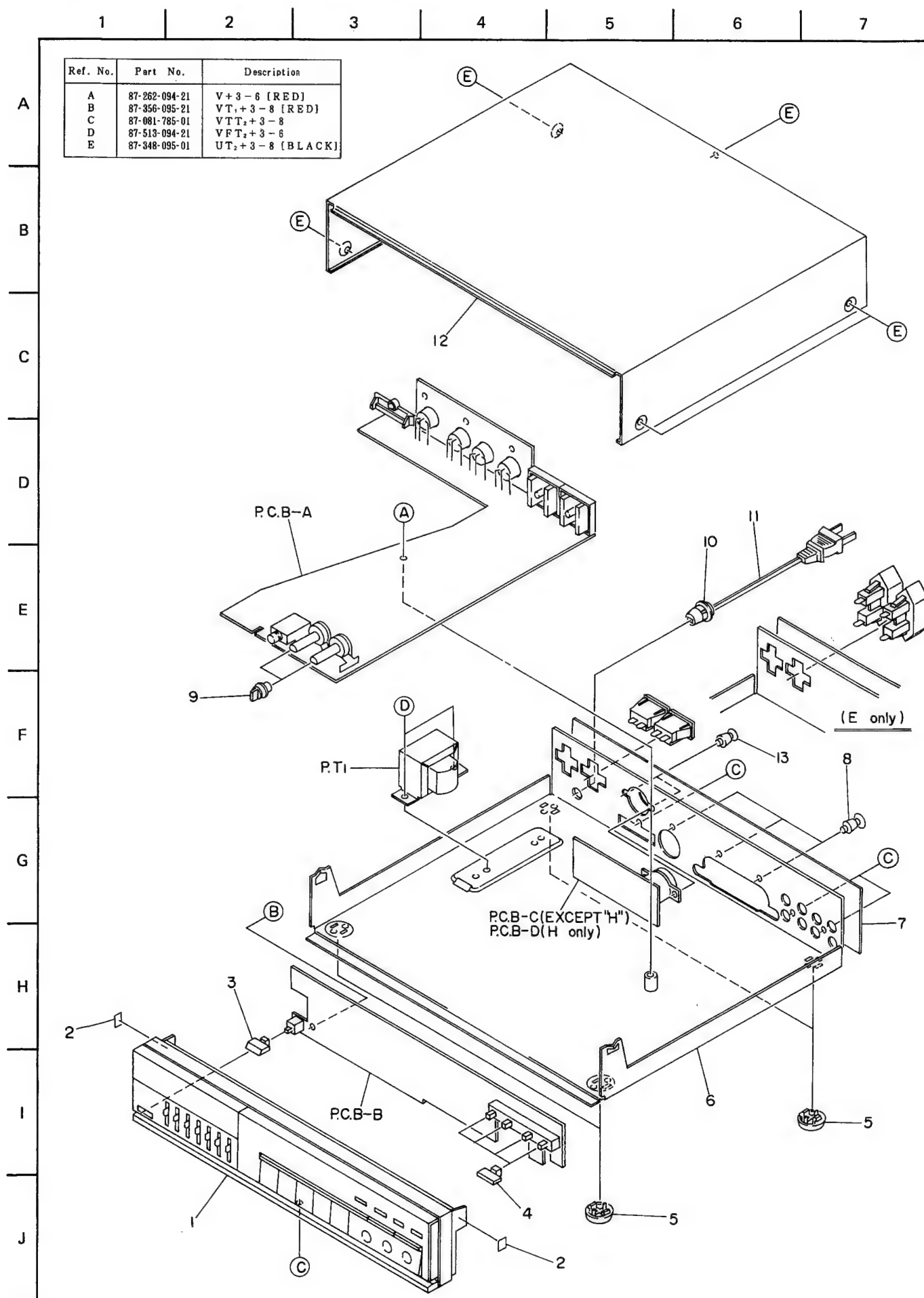
 **Safety component symbol**

This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

- This schematic diagram is subject to change without notice in the interests of improved performance.

☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆**MEMO**☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆

EXPLODED VIEW (GX-770)

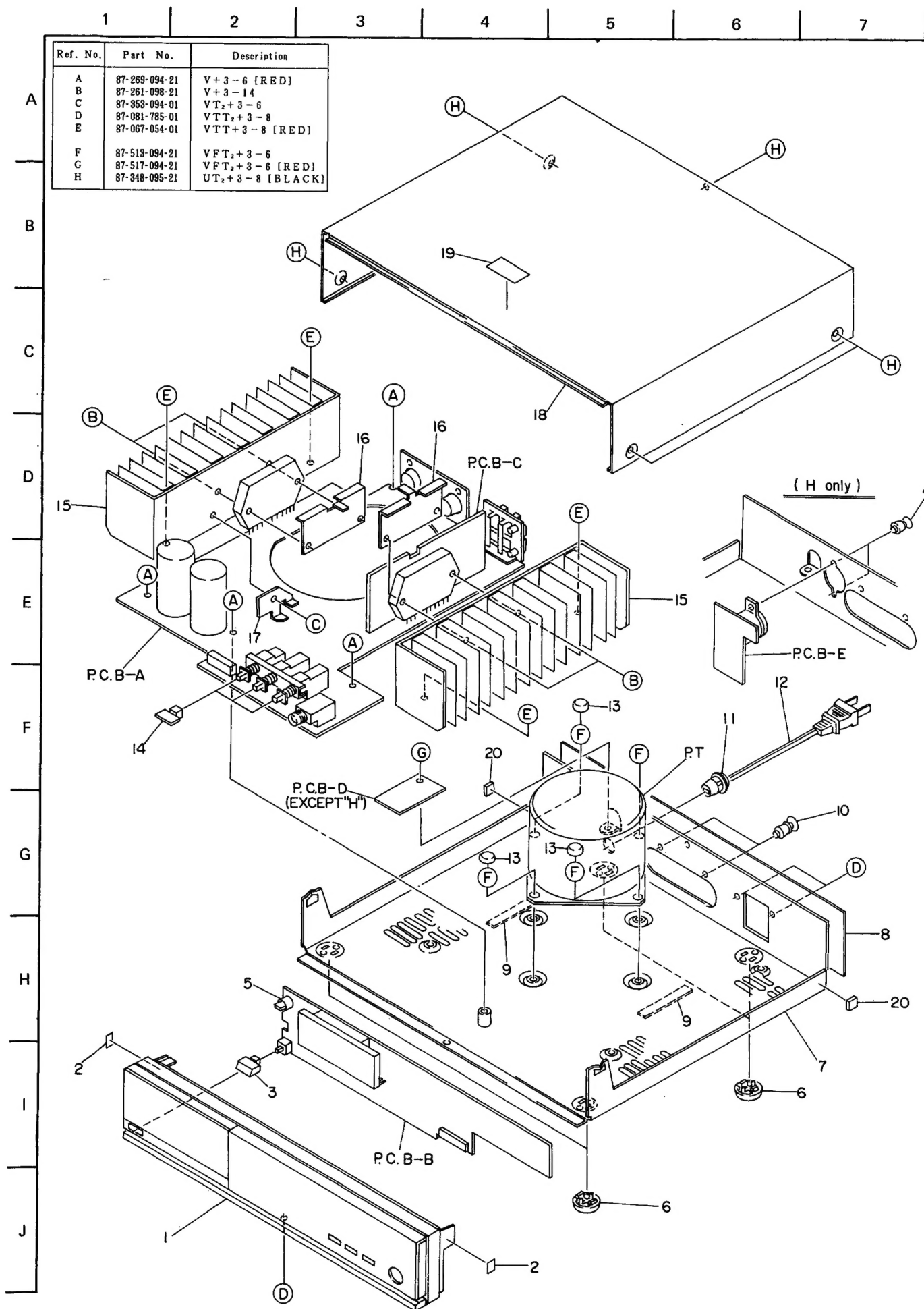


MECHANICAL PARTS LIST (GX-770)

- ※-mark in this part list shows exclusive part.
- ★-mark means less required items availabilities may be limited.
- No availability part is marked with—— in Part No. list.

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty
	1	★81-750-021	FRONT CABINET CH (B) Ass'y	※	1
	2	—	SHEET 14-6-0.3		2
	3	★84-714-013	BUTTON, POWER	DX-770	1
	4	★81-748-010	PUSH-BUTTON T		4
	5	★87-055-057	FOOT B		4
	6	—	AMP. CHASSIS Ass'y		1
	7	—	JACK PLATE		1
	8	★87-084-077	NYLON RIVET 3.5-5.5		3
	9	81-752-014	KNOB	MX-550	2
	10	★87-085-184	CORD BUSHING (H, U only)		1
		★87-085-185	CORD BUSHING (E, K, Z only)		1
	11	★87-034-992	AC POWER CORD (H only)		1
		★87-034-929	AC POWER CORD (U only)		1
		★87-034-877	AC POWER CORD (E, Z only)		1
		★87-034-708	AC POWER CORD (K only)		1
	12	★81-748-020	STEEL CABINET T		1
	13	★87-085-090	NYLON RIVET 3-6.5 (H only)		2

EXPLODED VIEW (BX-770)



MECHANICAL PARTS LIST (BX-770)

- ※-mark in this part list shows exclusive part.
- ★-mark means less required items availabilities may be limited.
- No availability part is marked with — in Part No. list.

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty
	1	★81-751-022	FRONT CABINET PH (B) Ass'y	※	1
	2	—	SHEET 14-6-0.3		2
	3	★81-714-013	BUTTON POWER	DX-770	1
	4	★87-085-090	NYLON RIVET 3-6.5 (H only)		2
	5	—	COLLAR LED		1
	6	★87-055-057	FOOT B		4
	7	—	AMP. CHASSIS Ass'y		1
	8	—	JACK PLATE		1
	9	—	SHEET IC		2
	10	★87-085-102	NYLON RIVET 3.5-5.5		2
	11	★87-085-184	CORD BUSHING (H, U only)		1
		★87-085-185	CORD BUSHING (E, K, Z only)		1
	12	★87-034-992	AC POWER CORD (H only)		1
		★87-034-578	AC POWER CORD (U only)		1
		★87-034-877	AC POWER CORD (E, Z only)		1
		★87-034-708	AC POWER CORD (K only)		1
	13	★82-752-206	COVER, NUT	MX-550	3
	14	★81-748-010	PUSH-BUTTON T		3
	15	—	HEAT SINK Ass'y		2
	16	—	PLATE NUT		2
	17	—	HOLDER, CIRCUIT BOARD		1
	18	★81-751-010	STEEL CABINET P	※	1
	19	★87-057-717	TEMP LABEL H		1
	20	—	G CUSHION		2

■ ACCESSORIES/PACKAGE LIST

GX-770

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty	
	1	★81-750-907	INSTRUCTION BOOKLET	※	1	

BX-770

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty	
	1	★81-751-907	INSTRUCTION BOOKLET	※	1	
	2	★87-034-718	8 P DIN CORD CW-258ESK		1	

AIWA Co., Ltd. Tokyo Japan